

83. The method of claim 79, wherein the protein is encoded by a nucleic acid introduced into the cell.

84. The method of claim 72, wherein the cell is a plant cell.

85. The method of claim 72, wherein the cell is an animal cell.

86. The method of claim 72, wherein the cell is a human cell.

#### REMARKS

Claims 1-56 were presented for examination with the application as filed. By virtue of this Preliminary Amendment, claims 4, 5, 19, 25, 26 and 28-56 are cancelled, claim 21 is amended, and new claims 57-86 are added. Accordingly, claims 1-3, 6-18, 20-24, 27 and 57-86 are presently pending in the application.

Support for new claims 57, 66 and 72 can be found, for example, at page 22, lines 8-15 of the specification, as well as in original claims 40-53 and 56.

The "Cross reference to related applications" section of the specification has been amended to properly refer to a § 119 (e) claim for benefit of the filing date of a provisional application. No new matter is added.

**CONCLUSION**

Applicants look forward to action on the merits. Please direct all correspondence  
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**VERSION SHOWING CHANGES MADE**

**In the specification**

On page 1, lines 5-7:

This application claims [priority] benefit under the provisions of 35 U.S.C. § 119 [to] of U.S. Provisional Patent Application Serial No. 60/200,590, filed April 28, 2000; the disclosure of which is hereby incorporated by reference in its entirety.

**In the claims**

**21.** (Amended) A method for binding a ZFP transcription factor to a binding site, wherein the binding site is located within a region of interest in cellular chromatin, wherein the method comprises:

- (a) identifying an accessible region within the region of interest;
  - (b) identifying a zinc finger protein (ZFP) binding sequence within the accessible region;
  - (c) designing or selecting a ZFP to bind to the binding sequence; and
  - (d) introducing the ZFP into the cell;
- whereby the ZFP binds to the binding site.

**PRESENTLY PENDING CLAIMS**

1. A method for binding an exogenous molecule to a binding site, wherein the binding site is located within a region of interest in cellular chromatin, wherein the method comprises:

- (a) identifying an accessible region within the region of interest;
- (b) identifying a target site for the exogenous molecule within the accessible region; and
- (c) introducing the exogenous molecule into the cell;

whereby the exogenous molecule binds to the binding site.

2. The method according to claim 1 wherein the cellular chromatin is in a chromosome.

3. The method according to claim 1 wherein the accessible region is a nuclease hypersensitive region.

4. (Cancelled)

5. (Cancelled)

6. The method according to claim 1, wherein the exogenous molecule is a protein.

7. The method according to claim 6 wherein the protein performs a process selected from the group consisting of replication, recombination, integration, DNA repair, transcriptional regulation and chromatin remodeling.

8. The method according to claim 6 wherein the protein is used for detection of a target sequence.

9. The method according to claim 7, wherein the protein is a transcription factor.

10. The method according to claim 9, wherein the transcription factor is a zinc finger protein (ZFP).

11. The method according to claim 6 wherein the protein is encoded by an exogenous nucleic acid introduced into the cell.
12. The method according to claim 1, wherein the cell is a eukaryotic cell.
13. The method according to claim 12, wherein the cell is a plant cell.
14. The method according to claim 12, wherein the cell is a mammalian cell.
15. The method according to claim 14, wherein the cell is a human cell.
16. The method according to claim 1, wherein the binding site is in a coding region.
17. The method according to claim 1, wherein the binding site is in a non-coding region.
18. The method according to claim 10, wherein the binding site comprises the sequence 5'-NNx aNy bNz c-3', wherein  
each of (x,a), (y,b) and (z,c) is (N,N) or (G,K); and  
at least one of (x,a), (y,b) and (z,c) is (G,K); wherein N is any nucleotide and K is either G or T.
19. (Cancelled)
20. The method according to claim 11 wherein the nucleic acid is introduced into the cell by a method selected from the group consisting of lipid-mediated gene transfer, electroporation, direct injection, particle bombardment, calcium phosphate co-precipitation, DEAE-dextran mediated transfer, and viral vector-mediated transfer.
21. (Amended) A method for binding a ZFP transcription factor to a binding site, wherein the binding site is located within a region of interest in cellular chromatin, wherein the method comprises:
  - (a) identifying an accessible region within the region of interest;
  - (b) identifying a zinc finger protein (ZFP) binding sequence within the accessible region;

(c) designing or selecting a ZFP to bind to the binding sequence; and

(d) introducing the ZFP into the cell;

whereby the ZFP binds to the binding site.

**22.** The method according to claim 21 wherein the ZFP is introduced into the cell by introducing a DNA construct encoding the ZFP into the cell under conditions in which the construct expresses the ZFP.

**23.** The method according to claim 21 wherein the cellular chromatin is in a chromosome.

**24.** The method according to claim 21 wherein the accessible region is a nuclease hypersensitive region.

**25.** (Cancelled)

**26.** (Cancelled)

**27.** The method according to claim 21, wherein the binding site comprises the sequence 5'-NNx aNy bNz c-3', wherein

each of (x,a), (y,b) and (z,c) is (N,N) or (G,K); and

at least one of (x,a), (y,b) and (z,c) is (G,K); wherein N is any nucleotide and K is either G or T.

**28-56.** (Cancelled)

**57. (New)** A complex between an exogenous molecule and a binding site in cellular chromatin, wherein the binding site is in an accessible region of cellular chromatin.

**58. (New)** The complex of claim 57, wherein the exogenous molecule is a nucleic acid.

**59. (New)** The complex of claim 58, wherein the nucleic acid is a triplex-forming nucleic acid.

**60. (New)** The complex of claim 57, wherein the exogenous molecule binds in the minor groove of double-stranded DNA.

**61. (New)** The complex of claim 57, wherein the exogenous molecule is a small molecule therapeutic.

**62. (New)** The complex of claim 57, wherein the exogenous molecule is a protein.

**63. (New)** The complex of claim 62, wherein the protein is a transcription factor.

**64. (New)** The complex of claim 63, wherein the transcription factor is a zinc finger protein (ZFP).

**65. (New)** The complex of claim 57, wherein the accessible region is a nuclease hypersensitive region.

**66. (New)** A cell comprising the complex of claim 57.

**67. (New)** The cell of claim 66, wherein the exogenous molecule is a protein.

**68. (New)** The cell of claim 67, wherein the protein is encoded by a nucleic acid introduced into the cell.

**69. (New)** The cell of claim 66, wherein the cell is a plant cell.

**70. (New)** The cell of claim 66, wherein the cell is an animal cell.

**71. (New)** The cell of claim 66, wherein the cell is a human cell.

**72. (New)** A method for modulating the transcription of a gene in a cell, wherein the gene is present in a chromosome of the cell, by binding an exogenous molecule to a binding site in the chromosome, wherein the binding site is in an accessible region of cellular chromatin.

**73. (New)** The method of claim 72, wherein modulation comprises activation of transcription.

**74. (New)** The method of claim 72, wherein modulation comprises repression of transcription.

**75. (New)** The method of claim 72, wherein the exogenous molecule is a nucleic acid.

**76. (New)** The method of claim 75, wherein the nucleic acid is a triplex-forming nucleic acid.

**77. (New)** The method of claim 72, wherein the exogenous molecule binds in the minor groove of double-stranded DNA.

**78. (New)** The method of claim 72, wherein the exogenous molecule is a small molecule therapeutic.

**79. (New)** The method of claim 72, wherein the exogenous molecule is a protein.

**80. (New)** The method of claim 79, wherein the protein is a transcription factor.

**81. (New)** The method of claim 80, wherein the transcription factor is a zinc finger protein (ZFP).

**82. (New)** The method of claim 72, wherein the accessible region is a nuclease hypersensitive region.

**83. (New)** The method of claim 79, wherein the protein is encoded by a nucleic acid introduced into the cell.

**84. (New)** The method of claim 72, wherein the cell is a plant cell.

**85. (New)** The method of claim 72, wherein the cell is an animal cell.

**86. (New)** The method of claim 72, wherein the cell is a human cell.